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ABSTRACT

Project BECOME, a mainstreaming program for Hispanic and Haitian students of limited English proficiency, provided instruction in ESL and native language studies, as well as bilingual instruction in social studies, mathematics, science, and typing. The program, which was implemented at Sarah J. Hale High School (located in downtown Brooklyn, New York) was primarily vocational in orientation. This evaluation report covers the program's third and final year of operation and focuses on (1) its demographic context; (2) student characteristics; (3) program characteristics, including organization, funding, and staffing; (4) its instructional component (student placement, programming and mainstreaming; ESL and English reading; bilingual content area instruction; and mainstream instruction); (5) its non-instructional component (curriculum and materials development; supportive services; staff development; parental and community involvement; and affective domain); (6) evaluation findings regarding student achievement; and (7) recommendations for ongoing bilingual education efforts at the high school levels. Quantitative data on student achievement indicate that program students made significant gains in both English and native language development and in most content areas. In addition, the attendance rate of program students was significantly higher than the total school attendance rate. (GC)

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SARAH J. HALE HIGH SCHOOL

PROJECT BECOME

1982-1983

OEE Evaluation Report

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UD023630

O.E.E. Evaluation Report

March, 1984

Grant Number: G00-800-6581

SARAH J. HALE HIGH SCHOOL

PROJECT BECOME

1982-1983

Principal:
Mr. Bernard Wolinez

Coordinator:
Ms. Alba Del Valle

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A SUMMARY OF THE EVALUATION

FOR PROJECT BECOME

SARAH J. HALE HIGH SCHOOL

1982-1983

This program, in its third and final year of funding, provided instruction in E.S.L. and native language studies, as well as bilingual instruction in social studies, mathematics, science, and typing, to approximately 125 Hispanic and 120 Haitian students of limited English proficiency in grades nine through twelve. The program's third year saw a continuation in the increase of Haitian students; originally, 75 percent of program students were Hispanic. Most students entered the program directly from their countries of origin. Of the Haitian students, 99 percent came to this country within the last two years. Students varied in English language proficiency, ability in the native language, and overall academic preparedness.

The major program goal was to facilitate mainstreaming by the senior year. The program philosophy was one of transition by partially mainstreaming students simultaneously with bilingual instruction (prior to the senior year). Since most program students were enrolled in a mainstream vocational sequence, they were constantly exposed to English-language curricula and non-program students.

Title VII funds supported administrative and support services staff. Instructional services were funded by a combination of Chapter I, P.S.E.N., tax-levy, and Module 5B monies. Major staffing changes occurred during the 1982-83 school year and included the addition of a science, mathematics, and social studies teacher who was bilingual in French/Creole. In addition, the role of the Haitian family assistant was expanded to meet the needs of the growing Haitian student population. Curriculum materials were developed in Spanish for ninth graders. Despite the need for materials geared for Haitian students, none were developed during 1982-83. The Haitian teacher, the only staff person capable of developing appropriate materials, carried a teaching load which allowed little time for materials development. Supportive services to program students consisted of work-related, social service, and family referrals, formal and informal personal counseling, and a limited number of home visits. Program staff also maintained contact with mainstream and vocational faculty in an effort to monitor student problems and programming. Development activities for staff members included monthly staff meetings, regularly scheduled individual meetings with the program coordinator, and attendance at professional conferences and university courses. The coordinator saw a limited need for staff development since most staff members were experienced professionals with

one or more advanced degrees. Parents of participating students were involved through regular telephone contact with program staff, and attendance at cultural events and informational meetings.

Students were assessed in English language development (Criterion Referenced English Syntax Test and the Test of English Proficiency in English Language Skills); growth in the mastery of the native language (Interamerican Series, La Prueba de Lectura); mathematics, science, and social studies (teacher-made tests); and attendance (school and program records). Quantitative analysis of student achievement indicates that:

--Program students mastered 2.2 CREST objectives per month in the fall and 1.6 CREST objectives per month in the spring.

--Students tested on the Test of Proficiency in English Language Skills achieved statistically significant gains; effect sizes ranged from moderate to very substantial.

--The post-test mean scores of students tested with La Prueba de Lectura were significantly greater than the pre-test means.

--The only groups failing to meet the criterion of 70 percent passing content-area subjects were social studies students in the fall (66.7 percent) and mathematics students in the spring (63.1 percent).

--The attendance rate of program students was significantly larger than the total school attendance rate.

The following recommendations are offered for ongoing bilingual education efforts at Sarah J. Hale:

--Encouraging bilingual students to consider the health professions sequence as their chosen field of vocational education;

--Acquiring materials in French through contact with central offices of the New York City Public Schools and other Haitian programs;

--In light of the growth of the Haitian student population, making efforts to retain current Haitian teaching and non-teaching staff and instituting school-wide staff training to increase awareness of cultural issues that affect the performance of Haitian students;

--Grouping students in transitional reading classes according to level of proficiency rather thar native language. A developmental syllabus for these courses should be established and appropriate staff training should take place;

--Maintaining greater contact between bilingual staff and teachers of E.S.L. in general, particularly for such courses as bilingual typing and cosmetology, in an effort to increase communication about specific student problems.

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The production of this report, as of all O.E.E. Bilingual Education Evaluation Unit reports, is the result of a cooperative effort of permanent staff and consultants. In addition to those whose names appear on the cover, Margaret Scorza has reviewed and corrected reports, coordinated the editing and production process, and contributed to the quality of the work in innumerable ways. Karen Chasin has spent many hours creating, correcting, and maintaining data files. Joseph Rivera has worked intensely to produce, correct, duplicate, and disseminate reports. Without their able and faithful participation the unit could not have handled such a large volume of work and still produced quality evaluation reports.

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PROJECT BECOME: BILINGUAL EDUCATION AT
SARAH J. HALE HIGH SCHOOL

Location:	345 Dean Street Brooklyn, New York
Year of Operation:	1982-1983, final year of three-year funding cycle
Target Languages:	Spanish, French/Creole
Target Population:	242 students
Principal:	Mr. Bernard Wolinez
Program Coordinator:	Ms. Alba Del Valle

This report evaluates Project BECOME in its third and final year of funding. Because it is an established program that has already been described in detail in reports on its first two years of operation, the following will focus on changes that have taken place in 1982-83 and will not repeat some of the detail contained in previous reports.

I. DEMOGRAPHIC CONTEXT

ATTENDANCE AREA

Sarah J. Hale High School is located in downtown Brooklyn in Community School District 15, from which it draws 85 percent of its students. It is located several blocks from the downtown Fulton Street shopping area. The immediate vicinity of the school consists of three- and four-story residences, some in disrepair, some in the process of being renovated, and small factories, some abandoned, some still in operation. The school is well served by public transportation.

Residents of the immediate area are largely working class black Americans, Haitians, and Hispanics. Non-Hispanic white students from the area and Middle Eastern students concentrated along Atlantic Avenue have not chosen to attend Hale.

SITE CHARACTERISTICS

The school consists of a main building and a west wing. Most classes are held in the four-story main building. Fifty years old, it is well-maintained and graffiti-free. Down the block from it is the west wing, a converted industrial space that has been part of Hale for seven years. It contains both enclosed offices and large open spaces divided into classrooms by partitions that do not reach the ceiling. The co-ordinator's and program guidance offices are located on separate floors of this west wing. Bilingual classes are taught in this building, but students go to the main building for most of their mainstream classes.

Although nominally an academic-comprehensive high school, Hale functions as if it were the vocational school it was until nine years ago when male students were admitted and academic and vocational offerings were expanded. Ninety percent of its 2,100 students are enrolled in vocational courses. Students from outside the area are especially attracted by its cosmetology program, the largest in the city. Sixty-four percent of the students read at two or more years below grade level.

The student body is approximately two-thirds non-Hispanic black, with the Haitian population steadily increasing. Nearly all of the other students are Hispanic. Sixty-nine percent of the student population is categorized low income; the school is eligible for Chapter I funding.

It is interesting to note that even though the general school population is decreasing, the number of Haitian students eligible for program services is increasing.

II. STUDENT CHARACTERISTICS

ENTRY CRITERIA

The coordinator reports that the program is able to handle all eligible students. Eligibility is determined by students' scores on the Language Assessment Battery (LAB). Those scoring below the twenty-first percentile on it are eligible for the program. Several students who do not qualify on the basis of the LAB test are kept in the program at the request of their parents, who feel that their children will do better in the bilingual program than in the monolingual English mainstream.

COMPOSITION

Since the program's inception, a major shift in composition has occurred. Although the program was originally conceived as one for Hispanic students with a relatively small Haitian component, the gap has been closing between the number of Spanish- and French/Creole-speaking students in it. Originally, approximately 75 percent of program students were Hispanic. In 1981-82, the gap had closed to 150 Hispanic and 125 Haitian students. During the program's third year, the breakdown was essentially half and half, with 123 Hispanic and 119 Haitian students. Table 1 indicates the breakdown of students, for whom information was provided, by country of birth. Table 2 presents the program students by language and grade.

Of the Haitian students, 64 are female, 55 are male. Of the Hispanics, 75 are female, 48 are male. This breakdown is consistent with the school as a whole, in which approximately two-thirds of the students are female.

TABLE 1

Number and Percent of Program Students by Country of Birth

Country of Birth		Number	Percent of Language Group
Puerto Rico		50	46
Dominican Republic		17	16
Other "Caribbean"		1	less than 1
Mexico		1	less than 1
Honduras		5	5
Guatemala		3	3
Costa Rica		1	less than 1
El Salvador		5	5
Panama		13	12
Colombia		4	4
Ecuador		6	5
Chile		3	3
	Total Hispanic	109	100
Haiti	Total Haitian	112	100
	Total Program	221	

- Forty-six percent of the Hispanic program students were born in Puerto Rico.
- Fifty-one percent of the program students were born in Haiti.

TABLE 2

Grade and Language of Program Students

Grade	Number of LEP Students	Language
9	78	Spanish
	49	French/Creole
10	48	Spanish
	57	French/Creole
11	25	Spanish
	42	French/Creole
12	25	Spanish
	17	French/Creole

Few students enter the program from junior high school. Most come from their country of origin. This is especially true of the Haitian students, 99 percent of whom came to this country in the last two years. As a result of their mobility, some students have had their schooling interrupted; some have received fewer years of education than is expected for their age. Table 3 lists the number of program students by age and grade, while Table 4 lists the time spent in the bilingual program.

LANGUAGE PROFICIENCY

Language proficiency among students differs significantly. For the most part, the coordinator reports that Hispanic students are slightly below grade level in the native language and the Haitians are up to three years below grade level. Other staff members mentioned the presence of Haitian students who cannot read or write French/Creole and of a couple

TABLE 3

Number of Program Students by Age and Grade

All Students

Age	Grade 9	Grade 10	Grade 11	Grade 12	Total
13	1	0	0	0	1
14	5	0	0	0	5
15	10	9	2	0	21
16	12	20	8	0	40
17	7	18	17	2	44
18	6	16	26	9	57
19	2	10	15	8	35
20	1	3	5	2	11
21	0	1	3	1	5
TOTAL	44	77	76	22	219

Note. Shaded boxes indicate expected age range for grade.

Overage Students

Number	28	48	49	11	136
Percent	63.7	62.3	64.5	50.0	62.1

Hispanic Students

Number	18	16	26	2	62
Percent	69.2	50.0	55.3	66.7	57.4

Haitian Students

Number	10	32	23	9	74
Percent	35.7	71.1	79.3	47.4	66.7

- Sixty-two percent of all program students are overage for their grade. The Haitian component exhibits a higher overage percentage -- 67 percent.

- Most overage students are in the tenth and eleventh grades.

TABLE 4

Time Spent in the Bilingual Program[a]

(As of June 1983)

Time Spent in Bilingual Program	Number of Students Grade 9	Grade 10	Grade 11	Grade 12	Total
<1 Academic Year	1	2	3	0	6
1 Academic Year	44	38	20	11	113
2 Academic Years	0	37	22	6	65
3 Academic Years	0	1	27	5	33
Total	45	78	72	22	217

[a]Rounded to the nearest year.

- Of the students reported, 15 percent had been in the program for three academic years.
- Over 50 percent of the students had participated in the program for one year or less.

of Hispanic students with only a year and a half of previous education who, although enrolled in the cosmetology program, are totally illiterate. The discrepancies in language proficiency reflect the wide range of the students' prior education; students from rural backgrounds tend to have the weakest language foundations.

III. PROGRAM CHARACTERISTICS

PROGRAM GOALS AND OBJECTIVES

Instructional Objectives:

1. Seventy-five percent of all program students enrolled in English as a second language (E.S.L.), bilingual content area courses, and mainstream courses will master the skills required to receive a passing grade.

2. Seventy-five percent of students will develop the reading and comprehension skills in their native language necessary to pass the city-wide examination.

3. Seventy-five percent of students will develop English-language writing skills necessary to pass the Regents Competency Examination (R.C.T.) in writing.

4. Seventy-five percent of students will develop mathematics skills necessary to pass the native language version of the ninth-year Regents examination and/or ninth-year mathematics city-wide examination.

5. Students will be fully mainstreamed by their senior year.

Non-Instructional Objectives:

1. Academic and support services will be provided for all eligible Hispanic and Haitian students.

2. Staff will improve its skills through taking additional credit-bearing courses, attending in-service training, and meeting regularly with each other.

3. Staff will develop new bilingual materials where needed.

4. Staff will maintain contacts with non-program teachers to foster understanding of program goals and to lessen program isolation.

5. Staff will maintain contacts with parents of program students and encourage their participation in the program.

PROGRAM PHILOSOPHY

The program's philosophy has remained stable throughout its three years of operation. It is essentially a transitional program which

provides students with partial mainstreaming prior to the senior year, while taking certain bilingual classes. Because the vast majority of program students are enrolled in a mainstream vocational sequence, they are assured significant contact with English-language curriculum and non-program students. By the senior year, academic students too are integrated with the school's mainstream. Before the senior year, students learn content-area material in bilingual classes that reinforce both their native language skills and their conceptual development. Taught in the native language with translations of new vocabulary into English, these courses are equivalent in terms of curriculum to those taught in the mainstream. E.S.L. and the English reading classes provide an additional link between bilingual and mainstream programs. The bilingual program continues to have the full support of the principal.

ORGANIZATION AND STRUCTURE

Project BECOME falls under the aegis of the principal and the chairperson of the Communication Arts Department. Program changes, initiated by project staff, must be approved by the Communication Arts chairperson, who also supervises the testing of project students for placement in E.S.L. In general, however, Project BECOME functions as if it were an autonomous department. Supervision, coordination, and administration of all program aspects are handled by the coordinator who, like department chairpeople, is a member of the principal's cabinet. Program staff functions as a discrete entity, rather than, for instance, attending meetings of the Communication Arts Department.

Program staff consists of the coordinator (Hispanic), a secretary (Hispanic), a grade advisor (Hispanic) who also teaches social studies, a mathematics/science/social studies teacher (Haitian), a curriculum coordinator/mathematics teacher (Hispanic), a family assistant (Haitian), and one educational assistant (Haitian). All Hispanic staff members are speakers of Spanish and English, while Haitian staff members are speakers of Haitian-Creole, French, and English.

Program adaptation to a changing population is reflected in the role of the family assistant. In order to serve the Haitian students, she has had to take on responsibilities that go far beyond those associated with her job title. She screens all incoming Haitian students, does individual and family referrals, works out programs for Haitian students, and generally fulfills the responsibilities of a full-time guidance counselor. Her importance to the program is fully recognized both by the coordinator and by the principal, who has involved her in meetings otherwise attended by administrators and guidance couselors.

FUNDING

Table 5 indicates funding sources for program staff.

Table 5

Funding for Instructional and Non-Instructional Staff

Title/Position	Title VII	Chapter I/ E.S.L.	P.S.E.N. E.S.L	Tax Levy	Module 5B
Supervisor	1.0				
Bilingual Grade Advisor	.8				
Bilingual Secretary	1.0				
Curriculum Specialist	.8				
Educational Assistant	1.0				
Family Assistant	1.0				
Classroom Teachers/ Bilingual Content Area				3.6	
Classroom Teachers/E.S.L.		2.0			
Classroom Teachers/English			2.4		
Classroom Teachers/Reading					1.0
Classroom Teachers/ Bilingual Math					1.0

STAFF CHARACTERISTICS

Appendix A indicates the characteristics of the project's professional and paraprofessional staffs. None has taught E.S.L. A major staff change since the 1981-82 year has been the addition of a science, mathematics, and social studies teacher who is bilingual in French/Creole. The previous teacher in this position spoke French, but not French/Creole, and was therefore limited in his ability to communicate with many of the Haitian students. The program no longer has the services of the Hispanic family assistant who worked during 1981-82. When the position of a family assistant had to be cut, the decision was made to retain the Haitian family assistant.

IV. INSTRUCTIONAL COMPONENT

STUDENT PLACEMENT, PROGRAMMING, AND MAINSTREAMING

Student placement is done by the grade advisor and the family assistant on the basis of LAB scores, interviews, and where available, recommendations of intermediate school teachers. Programming for required courses is done primarily according to academic level. For example, a Hispanic academic student would take Caribbean history in the ninth grade, Latin American history in the tenth, American history in the eleventh, and economics for one semester in the twelfth. Similarly, an academic program student would take no science in the ninth year, general science in the tenth, and biology in the eleventh. The 1981-82 report contains several typical student programs for both vocational and academic students.

Prior to 1981, bilingual students were not in the vocational track. Since then, they have enrolled in the cosmetology and business education options. Although a sequence in health professions is available to them, none have thus far enrolled in it. Programming for vocational students is also done primarily on the basis of grade. By the fourth year, they take an afternoon internship in their vocational field. Students begin in the ninth grade with a class that introduces them to their chosen career; each year thereafter they add a class in their career area so that by the fourth year, in addition to the internship, they are taking four vocational periods per day. This vocational option plays an important role in students' transition to all English-speaking settings.

Although students are tested through the communication arts department for placement in E.S.L., programming is done by program staff. Precedence is given to placing students in bilingual courses so that they do not lose their native language skills while they are learning English. As a result of these scheduling priorities, some students who might be better fitted for the double period of beginning E.S.L. are placed in more advanced E.S.L. classes.

ENGLISH AS A SECOND LANGUAGE AND ENGLISH READING

Program students take elementary, intermediate, and advanced E.S.L. The elementary classes meet for a double period five times a week; the intermediate and advanced classes meet daily for a single period. In the fall 1982 semester, an E.S.L. writing course was offered, mostly for advanced students. In the spring semester, two beginning, four intermediate, and two advanced E.S.L. classes were offered. Each class has a teacher and an educational assistant. Emphasis is on aural comprehension and speaking, although written work is incorporated into classes, especially once students get beyond the elementary level. Haitian and Hispanic program students are mixed together in these classes, which also contain non-program students, some whose native language is Spanish or French/Creole, a few whose native language is Arabic or Vietnamese. E.S.L. funding comes from Title I, so the classes are non-credit.

Although the two regular E.S.L. teachers are experienced, in the middle of the spring semester one teacher went on maternity leave and was replaced by someone with no experience or previous training in

teaching E.S.L. The regular teacher is expected to return in September. The two educational assistants who work in these classes are very experienced and work well with their assigned teacher.

A member of the evaluation team observed E.S.L. classes at each of the three levels. In each, the educational assistants worked individually with students. In some instances, they worked with students who had been in the class only a few weeks. In the beginning class, the teacher used a workbook and visual aids to increase student vocabulary. An intermediate class was involved in writing letters to various chambers of commerce requesting information on different cities. Advanced students were preparing for a final oral presentation to the class. Each student read a speech on a subject of personal interest which was taped so they could listen to it later; at the end of the term, students were to give their talks extemporaneously. Students in all of the classes were actively involved.

In addition to taking the non-credit E.S.L. class, program students take English reading classes that offer credit and provide further intensive work on English language skills. In each 1982-83 semester, Hispanic students were offered two sections of English transitional bilingual 4 (E.T.B.) and Haitian students were offered two sections of English transitional French 4 (E.T.F.) and one of E.T.F. 6; each meets daily for a single period and is exclusively for program students.

Haitian and Hispanic students are separated in these courses. Such an arrangement has the support of the principal and of the bilingual program coordinator. The coordinator explained that originally these

classes were taught by teachers who could provide a cultural component in addition to the language skills. While previous E.T.B. courses were taught by Hispanic teachers, previous E.T.F. classes were taught by non-Haitians. Although the current teachers cannot provide a cultural component in either E.T.B. or E.T.F., students from the two language groups remain in separate classes. Neither of the two classes observed, one for each language group, incorporated material into the lessons that would not have been equally appropriate for students of both language groups.

The coordinator and the chairperson of the communication arts department, under whose aegis these courses fall, noted that registration varies from class to class. A member of the evaluation team observed an E.T.B. class with a register of 15 and 11 students in class and an E.T.F. class with 30 students filling the room. As the Haitian population increases, the likelihood grows that students in E.T.F. classes will receive less individual help than the Hispanic students because of the greater size of E.T.F. classes.

Class size is especially important because the English language abilities of the students vary greatly. The teacher of the E.T.B. class that was observed said that all the students in the class were ninth graders at different language levels; he said that students in his other class were more advanced. The E.T.F. teacher, whose class had many more students, estimated that his students had been in the country from a few months to a year and differed significantly in terms of English language facility. In a class based on a workbook assignment followed

by a word scramble contest, the E.T.B. teacher was able to engage everyone in the small class. In an E.T.F. class based on reading aloud from Reader's Digest textbook, answering questions, and having unfamiliar vocabulary translated at the end of the lesson, relatively few of the students in the large class seemed actively involved in the lesson.

Members of the communication arts department, the teachers of these transitional reading classes are not trained in the methodology appropriate to them. Turnover in staff assigned to these courses is frequent. Bilingual instructional and non-instructional staff repeatedly mentioned the need for these courses to be taught regularly by two or three teachers, rather than to be alternated among different members of the department. The communication arts chairperson plans to stabilize staff assignments in this area.

Unlike the E.S.L. courses, the transitional reading classes have no clear sequence, either within each course or from semester to semester. As it is, a student going from one semester of the transitional reading class to the next might repeat material unnecessarily, go from more advanced to more basic work, or move ahead to difficult work whose foundation has not yet been laid. The problem is compounded by the presence in some transitional reading classes of students from all three E.S.L. levels.

BILINGUAL CONTENT-AREA INSTRUCTION

Bilingual courses provide students with content and skills that will prepare them to pass standardized tests and assist them in making the transition to academic mainstream courses. Table 6 lists the

TABLE 6

Bilingual Instruction in Subject Areas

(Fall and and Spring Semesters)

Course Title	Number of Classes	Language(s) of Instruction
General Biology 2	1	Spanish
General Science 2	1	Spanish
Advanced Algebra	1	Spanish
Fundamental Math 2	1	Spanish
Fundamental Math 4	1	Spanish
Health Careers	1	Spanish
American Studies 2	1	Spanish
Native Language Studies	1	Spanish
Native Language Studies 6	3	French/Creole
Native Language Studies 4	2	French/Creole
Native Language Studies 2	2	French/Creole
Global Studies	2	French/Creole
Fundamental Math 4	2	French/Creole
Fundamental Math 2	2	French/Creole
General Biology 2	1	French/Creole

bilingual content-area courses offered in 1982-83. The average register is 30 students. All classes meet five times a week. Instruction is entirely in the native language with paraprofessional assistance available. Materials correspond to the mainstream curriculum. The classes are exclusively for program students. Students are selected on the basis of their LAB scores.

Except for the Spanish and French language courses designed to improve and maintain the students' native language facility, the coordinator sees bilingual offerings as classes to be taught in Spanish

with English vocabulary introduced at the end of each lesson. In practice, the manner and extent to which English was used in each of five observed classes differed. Fundamentals of mathematics (F.M.) for ninth graders and Latin American history and culture for tenth graders were conducted entirely in Spanish. The teacher of the F.M. class did, however, introduce some English vocabulary during the lesson on reducing decimals to common fractions; although there are not enough copies to use it as a text, students sometimes use Repaso Matemático/Refresher Mathematics, which has Spanish and English on facing pages. In the Latin American history class, which uses a Spanish-language text, Historia de América, four or five students chose to do their term paper in English.

The same teacher, a Haitian, teaches the bilingual biology and mathematics classes that were observed by a member of the evaluation team. Both classes were similar in structure. In the math class, students were assigned several problems that involved finding a number when part of it is known; at the end of the period, the teacher collected their written work. In the biology class, students were given a reading assignment on how frogs reproduce and then went on to answer questions at the end of the reading selection; before the period was over, the teacher collected their written responses to them. Instructions, given in French/Creole, were minimal. Almost all teacher-student interactions were on a one-to-one basis. No paraprofessional was present in either class.

The greater availability of Spanish rather than French texts and material was evident. An interview with the Hispanic science teacher, for example, revealed that in Spanish bilingual science classes

all of the texts, charts, and transparencies are in Spanish. In the biology class for Haitian students, however, the teacher was using an English text, Biology Workshop 3: Understanding Reproduction. These and other materials appear to be equivalent to those used in the mainstream.

The bilingual typing class observed differs from the previously discussed four classes in that it is not taught by someone who is bilingual. Bilingual typing II, mostly for tenth and eleventh graders, is taught entirely in English and students use an English-language text. Most students seemed able to follow the teacher's verbal instructions. For those who cannot, a bilingual educational assistant attends periodically. In this, as in other classes where educational assistants are assigned, they work individually with students.

The coordinator reports that assigned texts are appropriate to students' reading levels. Teachers noted that, because of the varying levels in both English and the native language, some students in each class had difficulty with the assigned texts. This is, in some way, typical of the diversity among program students. One teacher cited this diversity as a major problem that, due to large class size and the absence of an educational assistant, kept him doing full-class lessons rather than individual instruction better suited to student needs.

MAINSTREAM INSTRUCTION

Both vocational and academic program students are involved in mainstream classes. All take at least physical education, music, art, and hygiene in the mainstream.

Approximately 30 program students were enrolled in vocational areas of study during the 1982-83 year. Although a health careers sequence is available, all vocational program students were enrolled in either the cosmetology or business education sequences. The coordinator expects that health assistant and medical assistant courses which will be given for the first time in 1983-84 will be more attractive to program students than current offerings. The 1981-82 report contains a figure outlining the sequence from year to year which is followed by vocational students.

A single cosmetology course was offered for bilingual students in the spring. Of the 27 students registered, 17 are from the bilingual program. The class is taught by a teacher who does not speak Spanish who is helped by a Spanish-speaking educational assistant. On the day of the observation, students were scheduled to take a test. Since the text was in English, the educational assistant helped students who had difficulty expressing themselves in that language. The test involved defining and using in a sentence several key terms in cosmetology. Although students have the option of taking the New York State cosmetology test in Spanish or English, the teacher feels that being able to communicate in both languages will eventually widen their job options. He finds that the students are hesitant to speak English. Except for the educational assistant, he reported no contact with bilingual staff.

Academic students have fewer mainstream courses than vocational students. They may take all of their content courses until the senior year in the native language. One teacher expressed concern that these students are isolated from mainstream students.

V. NON-INSTRUCTIONAL COMPONENT

CURRICULUM AND MATERIALS DEVELOPMENT

A ninth-grade math curriculum in Spanish was developed and put into use during the 1982-83 year. It consists of detailed lesson plans designed to teach the sequence of skills that parallel those covered in the mainstream fundamentals of mathematics course. Since the bilingual Spanish component of the program predates the beginning of Project BECOME, the program has at its disposal previously-developed curriculum and materials in other areas which are geared to its Hispanic students. The curriculum coordinator has a five-class teaching load.

Despite the need expressed and observed for materials specifically for Haitian students, no such curriculum and material development was done during the 1982-83 year. The single staff member capable of doing such work, the Haitian teacher who entered the program in January 1983, is already teaching five classes a day in three different subject areas: math, science, and social studies.

SUPPORTIVE SERVICES

Both the Hispanic grade advisor and the Haitian family assistant who performs the duties of a grade advisor have extremely good rapport with program students. Both appear to keep in contact with other guidance personnel, tax levy and Title I, in relation to student problems and programming. Both do work-related, social service, and family referrals and limited personal counseling.

Because of the growth in the school's Haitian population and the small number of Haitian staff members, the family assistant is sometimes called upon to translate when a student meets with a non-program guidance counselor or to give the principal background and cultural information when he has to work out a problem relating to a program student. Occasionally non-program Haitian students go to her office to talk over a problem.

Personal and academic guidance services are also performed by the program coordinator, who frequently meets with students in her office on a scheduled and informal basis. Students seem very comfortable dropping in to speak with her. During an evaluator's meeting with the principal, the coordinator came into his office briefly on her way to make a home visit about a major student problem. Because of their close contact with program students, all project staff are in a position to provide supportive services to them and do so on an ongoing basis.

STAFF DEVELOPMENT

The coordinator sees a limited need for staff development since most of her staff consists of experienced people with two master's degrees or a doctoral degree. In addition to monthly meetings, she meets individually on a regular basis with staff. Staff members attend such conferences as the one sponsored by the New York Association for Bilingual Education. The family assistant and the educational assistant are pursuing B.A. degrees at the City University.

PARENTAL AND COMMUNITY INVOLVEMENT

The coordinator and other project staff keep in ongoing contact with parents. The coordinator estimates that she received ten calls per day from the parents of program students. Mailings about program events are also made and parents participate in cultural events. Parent meetings are held several times each semester and seem to be primarily of an informational nature. Agendas for the spring meetings listed the participation only of Spanish-speaking program staff.

AFFECTIVE DOMAIN

Students on the whole seem well motivated and well behaved. However, the grade advisor noted that behavior had become an increasing problem this year, although one that affects a small minority of program students. He said that over ten program students had been suspended this year, as opposed to years when only two or three program students were suspended. He feels that part of the problem stems from the interaction between program students and the special education students who have classes on the same floor and therefore have regular contact in the hallways with program students.

Program students are active in the ASPIRA club and other school activities. They work on Panorama, the program's yearly publication of student writing and artwork. Fifty percent of junior and senior honor society members are bilingual students. In addition, of 26 seniors reporting post-high school plans, 23 students hoped to attend college, two wished to enroll in a vocational or career training school, and one planned to enter the business world.

VI. FINDINGS

ASSESSMENT PROCEDURES, INSTRUMENTS, AND FINDINGS

The following section presents the assessment instruments and procedures and the results of the testing to evaluate student achievement in 1982-83. Because of the unavailability of an appropriate comparison (control) group, the evaluation objectives were revised to incorporate, where applicable, the use of the correlated t-test model. This analysis determines whether the difference between pre-test and post-test mean scores is larger than would be expected by chance variation alone, that is, is statistically significant.

ACQUISITION OF ENGLISH SYNTAX

The assessment instrument utilized for measuring achievement in this area was the Criterion Referenced English Syntax Test (CREST). The CREST was developed by the New York City Public Schools to measure mastery of instructional objectives of the E.S.L. curricula at the high school level. There are four items for each objective, and mastery of an objective is achieved when three of the items are answered correctly. The test has three levels: beginning (I), intermediate (II), and advanced (III). The maximum score on Levels I and II is 25, while the maximum score on Level III is 15.

Mean differences between pre-test and post-test are calculated to represent the gain score, and an index which represents the number of objectives mastered per month is computed. However, since the levels are not equated vertically, it is impossible to measure gains for students

who change levels. Extensive information on CREST objectives and psychometric properties appears in the Technical Manual, New York City as a Second Language Criterion Referenced English Syntax Test.*

The CREST was administered at the beginning and end of both the fall and spring semesters. Table 7 presents the test results for students who were pre- and post-tested with the same test level during each semester.

Data were available for 73 program students in the fall and 70 program students in the spring. The program proposed that the mean post-test score of program students would surpass that of the control group at the .05 level of statistical significance. As stated, this objective was revised to use as criterion, a minimum average of one CREST objective mastered per month by the program students at each CREST level. As indicated in Table 7, program students mastered an average of 2.51 CREST objectives per month on Level I in the fall term, 2.68 objectives per month on Level II, and 0.82 objectives per month on Level III. In the spring term, students mastered an average of 1.98 CREST objectives per month on Level I, 1.72 objectives per month on Level II, and 0.88 objectives per month on Level III. Program students attained the revised criterion for both semesters at Levels I and II but failed to attain it for both semesters at Level III. Failure to attain the objectives at Level III was in part a function of the high initial status of this group. Sixty-seven percent of these students

*Board of Education of the City of New York, Division of High Schools, 1978.

had initially mastered twelve or more objectives on the pre-test in the fall semester. In the spring, 50 percent of the students had initially mastered ten or more of the objectives.

Another assessment instrument used to measure gains in reading and writing in English was the Test of English Proficiency in English Language Skills. The program again proposed that the mean post-test reading score of program students would surpass the control group at the .05 level of statistical significance. In accordance with the revised objective, pre- and post-test scores for program students were compared with the expectation that students would score significantly higher on the post-test.

Table 8 provides the results for all program students as well as a breakdown by grade. (Results for twelfth graders were omitted because of their small number.) In each instance, post-test means were found to be significantly greater than the pre-test means (all $p \leq .001$). Effect size for the group as a whole was substantial (.95). For the various grades, effect size ranged from moderate (.71, grade ten) to very substantial (1.50, grade nine).

TABLE 7

Results of the Criterion Referenced English Syntax Test

(Program Students, Pre- and Post-Tested on Same Test Level)

Test Level	Number of Students	Average Number of Objectives Mastered Pre	Post	Objectives Mastered*	Average Months of Treatment	Objectives Mastered Per Month
			Fall			
I	28	7.93	15.29	7.36	2.90	2.51
II	27	13.37	19.15	5.78	2.74	2.68
III	18	11.44	13.83	2.39	2.94	0.82
TOTAL	73	10.81	16.36	5.55	2.85	2.16
			Spring			
I	25	7.96	15.64	7.68	3.89	1.98
II	25	10.12	16.52	6.40	3.71	1.72
III	20	9.70	13.10	3.40	3.87	0.88
TOTAL	70	9.23	15.23	6.00	3.82	1.57

*Post-test minus pre-test.

TABLE 8

English Reading Achievement

Significance of Mean Total Raw Score Differences Between Initial and Final Test Scores of Students with Full Instructional Treatment on the Test of Proficiency in English Language Skills

		Pre-Test		Post-Test						
Grade	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean Difference	Corr. Pre/post	T-test	Level of Significance	Educational Significance
9	22	109.34	25.44	123.04	25.17	13.5	.937	7.04	<.001	1.50
10	27	113.89	31.08	128.33	32.57	14.44	.795	3.68	.001	.71
11	41	130.78	43.35	144.87	40.91	14.09	.945	6.35	<.001	.99
TOTAL	94	121.76	36.97	135.97	36.12	14.21	.916	9.20	<.001	.95

NATIVE LANGUAGE READING AND COMPREHENSION

The assessment instrument used to measure gains in reading and writing in Spanish was the Prueba de Lectura, Level II. The Prueba de Lectura is part of the Interamerican Series of Tests. The purpose of the series is to evaluate achievement in English and in Spanish for Spanish-speaking students from the Western hemisphere.

The program proposed that the mean post-test reading score of program students would surpass that of the control group at the .05 level of statistical significance. In accordance with the revised objective, pre- and post-test scores for program students were compared using the correlated t-test model with the expectation that students would score significantly higher on the post-test.

Table 9 provides the results for all program students as well as a breakdown by grade. (Results for twelfth graders were omitted because the number of the group was too small to permit meaningful interpretation.) In each instance, the post-test means were found to be significantly greater than the pre-test means (all $p < .001$). While the correlation between pre- and post-test performance was in the expected positive direction, the magnitude of the correlations was somewhat small. This directly reflects the limited variability the program students demonstrated on the pre-test (as indicated by the small pre-test standard deviations) which acts to attenuate the correlational coefficients.

Another index of improvement, the effect size, was computed by dividing the differences between the means by the standard deviation of

the difference between pre-test and post-test scores for each individual. This provides an index of improvement in standard deviation units and a change of 0.5 or larger is generally considered to be meaningful change. Effect size was substantial for the program students as a whole (1.73) as well as for each grade (all equal to or greater than 1.49).

TABLE 9

Native Language Reading Achievement

Significance of Mean Total Raw Score Differences Between Initial and Final Test Scores of Students with Full Instructional Treatment on the Prueba de Lectura, Level 2 by Grade

		Pre-Test		Post-Test						
Grade	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean Difference	Corr. Pre/post	T-test	Level of Significance	Effect Size
9	21	75.43	2.908	120.95	23.92	44.62	.241	8.75	p<.001	1.91
10	26	76.46	3.755	102.73	16.03	26.27	.314	7.62	p<.001	1.49
11	41	77.22	3.190	106.49	13.53	29.27	.040	13.60	p<.001	2.12
TOTAL	92	76.62	3.354	108.55	17.89	31.93	.070	16.64	p<.001	1.73

STUDENT ACHIEVEMENT IN MATHEMATICS, SCIENCE, SOCIAL STUDIES, AND BUSINESS/VOCATIONAL COURSES*

Tables 10 and 11 present passing rates for program students enrolled in mathematics, science, social studies, and business/vocational courses. Since data for a comparison group were not available, these passing rates were compared to a minimum criterion of at least 70 percent of the program students enrolled passing the course.

The overall passing rates for program students in the fall semester (Table 10) were 70.2 percent in mathematics, 81.4 percent in science, 66.7 percent in social studies, and 81.8 percent in business/vocational courses. Students' performance in social studies was the only area in which they failed to attain the objective. There was, however, some difference between the two language groups served by the program. Haitian students failed to attain the criterion of a 70 percent passing rate for social studies, and Hispanic students failed to attain a 70 percent passing rate for mathematics and social studies.

The overall passing rates for program students in the spring semester (Table 11) were 63.1 percent in mathematics, 100 percent in science, 73.0 percent in social studies, and 89.3 percent in business/

*Mathematics courses include remedial math, fundamental math, pre-algebra, algebra, geometry, eleventh- and twelfth-grade math, calculus, and R.C.T. preparation. Science courses include general science, biology, and chemistry. Social studies courses include world/global history, American history, economics, civics, native heritage studies, and American studies/culture. Business/vocational courses include career orientation, typing, secretarial studies, stenography, keypunching, electrical shop, wood shop, art, music, and health careers.

vocational courses. Student performance in mathematics was the only area in which the minimum 70 percent passing rate was not attained. Hispanic students failed to attain the criterion of a 70 percent passing rate in both mathematics and social studies during the spring, while Haitian students attained the criterion in all content areas.

TABLE 10

Number of Program Students Attending Courses and Percent Passing Teacher-Made Examinations in Content-Area Subjects (Fall)

Content Area	Grade 9 N	Grade 9 % Passing	Grade 10 N	Grade 10 % Passing	Grade 11 N	Grade 11 % Passing	Grade 12 N	Grade 12 % Passing	Total N	Total % Passing
All Students										
Mathematics	33	60.6	55	67.3	64	76.6	16	75.0	168	70.2
Science	21	81.0	51	76.5	50	84.0	7	100	129	81.4
Social Studies	19	47.4	57	45.6	57	82.5	23	95.7	156	66.7
Business/Vocational	22	100	25	96.0	54	98.1	27	100	154	81.8
Hispanic Students										
Mathematics	23	60.9	23	56.5	41	78.0	3	66.7	90	67.8
Science	20	80.0	23	65.2	41	82.9	3	100	87	78.2
Social Studies	10	30.0	22	68.2	34	76.5	3	66.7	69	66.7
Business/Vocational	14	100	7	85.7	26	96.2	2	100	49	95.9
Haitian Students										
Mathematics	10	60.0	32	75.0	23	73.9	13	76.9	78	73.1
Science	1	100	28	85.7	9	88.9	4	100	42	88.1
Social Studies	9	66.7	35	31.4	23	91.3	20	100	87	66.7
Business/Vocational	8	100	18	100	28	100	17	100	71	100

TABLE 11

Number of Program Students Attending Courses and Percent Passing Teacher-Made Examinations in Content-Area Subjects (Spring)

Content Area	Grade 9 N	Grade 9 % Passing	Grade 10 N	Grade 10 % Passing	Grade 11 N	Grade 11 % Passing	Grade 12 N	Grade 12 % Passing	Total N	Total % Passing
All Students										
Mathematics	40	57.5	65	67.7	65	60.0	9	77.8	179	63.1
Science	8	100	56	67.9	52	88.5	8	100	124	100
Social Studies	39	69.2	70	64.3	70	77.1	21	95.2	200	73.0
Business/Vocational	27	77.8	28	82.1	54	92.6	31	100	140	89.3
Hispanic Students										
Mathematics	23	47.8	24	45.8	41	48.8	3	66.7	91	48.4
Science	6	100	19	36.8	37	89.2	3	100	65	75.4
Social Studies	23	60.9	27	51.9	43	69.8	2	50.0	95	62.1
Business/Vocational	16	62.5	9	66.7	25	88.0	2	100	52	76.9
Haitian Students										
Mathematics	17	70.6	41	80.5	24	79.2	6	83.3	88	78.4
Science	2	100	37	83.8	15	86.7	5	100	59	86.4
Social Studies	16	81.3	43	72.1	27	88.9	19	100	105	82.9
Business/Vocational	11	100	19	89.5	29	96.6	29	100	88	95.5

STUDENT ATTENDANCE

In accordance with the program objective, the attendance rate of program students was compared with that of the general school population. The z-test is used to examine this difference and a resultant z value that is sufficiently large to attain statistical significance indicates that the program attendance rate is not based on a representative sample of the school population, that is, the two attendance rates are significantly different. Table 12 provides the data for program student attendance by grade, as well as total attendance results for the entire school population.

The total program student attendance rate (94.33 percent) was found to be significantly larger than the total school attendance rate (82.01 percent, N= 1,944) at $p < .001$.

TABLE 12

Significance of the Difference Between the Attendance Percentage of Program Students and the Attendance Percentage of the School

Grade	Number of Students	Mean Percentage	Standard Deviation
9	35	92.43	9.13
10	62	95.82	5.22
11	67	93.43	7.98
12	21	96.00	4.67
TOTAL	185	94.33	7.25

Average School-Wide Attendance Percentage: 82.01

Percentage Difference = 12.32 $z = 4.36$ $p < .001$

VII. CONCLUSIONS AND RECOMMENDATIONS

Project BECOME is a well-established program that has been of great benefit to the students it serves. In its last year of operation this year, the project will not be continued through federal funding for the 1983-84 year. Based on the information provided by the administration, faculty, and students, as well as data collected from interviews and classroom observations, the following recommendations are offered for ongoing bilingual education efforts at Sarah J. Hale:

1. Further efforts should be made to encourage bilingual students to consider the health professions sequence as their chosen field of vocational focus.

2. Materials in French need to be acquired through contact with central offices of the New York City Public Schools and other Haitian programs.

3. Efforts should be made to retain current Haitian teaching and non-teaching staff. In light of the growth of the Haitian student population, training on a school-wide basis should be instituted to increase general staff awareness of cultural issues that affect the performance of Haitian students.

4. Students in the transitional reading classes (E.T.B. and E.T.F.) should be grouped according to language level, not according to native language. In conjunction with E.S.L. teachers, a developmental syllabus for these courses should be established. Teachers of these courses might undergo training in appropriate methodology, perhaps coordinated by the Title I Staff Development Specialist for E.S.L. who

is assigned to Hale. Efforts should be made to establish a small, stable group of teachers for these courses.

5. Greater contact should be maintained between bilingual staff and teachers of E.S.L. in general, particularly for such courses as bilingual typing and cosmetology, so that communication about bilingual education and specific student problems is increased.

VIII. APPENDICES

APPENDIX A

Staff Characteristics: Professional and Paraprofessional Staffs

Function(s)	% Time for Each Function	Date Appt. to Each Function	Education (degrees)	Certification	License(s)	Total Years Experience in Education	Years Experience Bilingual
Curriculum Coordinator Bilingual Math	60 40	9/75	Doctorate in Math	NYS	Bil. Math - HS	9	9
Grade Advisor Bilingual Social Studies	60 40	9/77	M.A. Administration	NYS	Bil. Social Studies	8	8
Project Director	100	9/70	M.A. Administration M.A. English DHS	NYS	DHS English	15	8
Bilingual Math/ Social Studies	100	9/77	B.A. DHS Math	NYS	DHS Math	5	5
English Teacher	100	9/70	M.A. English	NYS	DHS English	13	13
Native Language Teacher	20	9/70	M.A. Languages	NYS	DHS Languages	13	13
Paraprofessional	100	9/69	110 credits			14	14
Family Assistant	100	9/80	60 credits			3	3
Secretary	100	9/75	B.A. will be awarded in May, '83				8